

Meadows Mental Health Policy Institute

Collaborative Care (CoCM) Key Reference List

CoCM in Adults: RCTs and Meta-Analyses

- The multi-site Improving Mood Promoting Access to Collaborative Treatment (IMPACT) study — the largest CoCM RCT to date — found that over six months, 49% of participants achieved depression response and 30% achieved remission with no in-person psychiatrist visits; usual care rates were 31% and 17%, respectively.¹ See PDF [here](#).
- The eIMPACT RCT found that integrating digital health interventions into CoCM for depression led to meaningful symptom improvements in 43% of participants at 12 months, compared to 17% in usual care.² Benefits were sustained through 24 months and extended to reduced in anxiety symptoms and increased positive affect.³ See PDFs [here](#) and [here](#).
- A Cochrane systematic review and meta-analysis of 79 RCTs found that CoCM was associated with significant improvement in depression and anxiety outcomes compared with usual care.⁴ See PDF [here](#).
- A systematic review and meta-analysis of 37 RCTs found CoCM to be more effective than usual care in improving depression outcomes in both the short and longer term.⁵ See PDF [here](#).
- A systematic review and meta-analysis of 69 RCTs found CoCM to be effective in achieving clinically meaningful improvements in depression outcomes across a wide range of populations, settings, and organizations.⁶ See PDF [here](#).
- A systematic review and meta-analysis of 31 RCTs found CoCM to be effective for people with depression alone as well as for people with depression and chronic physical conditions.⁷ See PDF [here](#).
- A narrative review of evidence from 2000 to late 2025 found that CoCM consistently improved depression outcomes for adults with a wide range of chronic conditions, including diabetes, cardiovascular disease, chronic pain, and chronic kidney disease. Effectiveness held up in real-world settings, including safety-net clinics, rural practices, and tech-enabled environments.⁸ See PDF [here](#).
- In the Depression Improvement Across Minnesota: Offering a New Direction (DIAMOND) stepped-wedge randomized study, patients in CoCM clinics had response and remission rates at 24 weeks of 46.7% and 36.4%, respectively; usual primary care depression groups had similar rates.⁹ See PDF [here](#).
- In a large RCT of the Team Care intervention (CoCM for depression and poorly controlled diabetes, coronary heart disease, or both), patients in the intervention group had greater 12-month improvement across glycated hemoglobin (blood sugar) levels, LDL cholesterol, systolic blood pressure, and SCL-20 depression scores.¹⁰ See PDF [here](#).

- CoCM has been shown to be efficacious for depression when delivered through telehealth.^{11,12} See PDFs [here](#) and [here](#).
- CoCM has been shown to be efficacious in populations with depression and specific medical comorbidities, including recent cardiac events,^{13,14} cancer,¹⁵ diabetes,¹⁶ and HIV.¹⁷ See PDFs [here](#), [here](#), [here](#), [here](#), and [here](#).
- CoCM has been shown to be efficacious for trauma survivors¹⁸ and for post-traumatic stress disorder (PTSD).¹⁹ See PDFs [here](#) and [here](#).

CoCM in Adults: Real-World Implementation and Observational Studies

- Implementation of CoCM in six Texas clinics found response rates of 32–83% and remission rates of 25–70% at 16 weeks and 26–77% at 24 weeks.²⁰ See PDF [here](#).
- Implementation of CoCM across 135 primary care clinics in the northwestern U.S. found response rates of 33% at 12 weeks and 38% at 24 weeks, and remission rates of 23% at 12 weeks and 25% at 24 weeks. This study had no comparison group, so baseline rates are unknown.²¹ See PDF [here](#).
- Implementation of CoCM in seven New York City clinics found a response rate across clinics of 58% for patients with depression or anxiety at 10–14 weeks; remission rates at 10–14 weeks were 19% of patients with depression and 29% of patients with anxiety.²² See PDF [here](#).
- Implementation of a virtual CoCM program in a large integrated health care system in Northern California led to greater symptom improvement for anxiety and depression compared to patients seen in specialty psychiatry.²³ See PDF [here](#).
- The Supportive Oncology Collaborative, a CoCM program integrating behavioral health and palliative care at a Massachusetts cancer center, found depression response rates of 34.9% at 12 weeks and 54.5% at 24 weeks.^{24,25,26} See PDFs [here](#), [here](#), and [here](#).
- A cluster-randomized, stepped-wedge trial (E2C2) of CoCM in nearly 25,000 oncology patients found significant reductions in anxiety and depression, along with sharply lower hospital admissions, ED visits, and ICU admissions (rate ratios 0.38–0.44), delivered with 20% physician effort and 2–3 full-time care managers. Successful implementation depended less on the intervention's design than on sustained facilitation — clinical champions, ongoing clinician engagement, and proactive outreach to patients less likely to use digital tools.^{27,28} See PDFs [here](#) and [here](#).
- A systematic review of 21 real-world CoCM implementation studies conducted across the U.S. found CoCM to be clinically effective across a wide range of settings and populations, with depression response rates ranging from 30% to 58% and remission rates ranging from 19% to 54%.²⁹ See PDF [here](#).
- An observational cohort study of a virtual, telehealth-delivered adaptation of CoCM for adults with major depressive disorder or generalized anxiety disorder in primary care

found reductions in depression and anxiety symptoms at 3 and 6 months, with symptom improvement and remission rates sustained over 18-months.³⁰ See PDF [here](#).

- A retrospective analysis of more than 30,000 closed CoCM treatment episodes at a single national provider found similar depression treatment response rates across severity levels —52% for patients with severe depression and 57% for patients with moderate depression at baseline. Anxiety, suicide risk, and Medicaid/Medicare coverage were associated with lower odds of improvement, while more frequent clinical touchpoints improved outcomes overall.³¹ See PDF [here](#).

CoCM in Pediatrics

- A systematic review on pediatric behavioral health integration (BHI) included 11 studies, three of which implemented CoCM and two of which implemented multiple components of CoCM. All three CoCM studies found the intervention group to be associated with improved outcomes relative to the comparison group.³² See PDF [here](#).
- A RCT of CoCM for adolescents with depression found that the intervention group had greater depression symptom improvement at 12 months (68% vs. 39%) and remission (50% vs. 21%) compared to the control group.³³ See PDF [here](#).
- A RCT of CoCM for children with attention-deficit / hyperactivity disorder (ADHD) symptoms found that the enhanced CoCM care group experienced better symptom trajectories.³⁴ See PDF [here](#).
- A RCT of CoCM for children with behavior problems, ADHD, or anxiety found the CoCM group to be associated with improved access, child / parent outcomes, consumer satisfaction, and clinician-reported skills and efficacy.³⁵ See PDF [here](#).
- A RCT of modified CoCM for adolescents and young adults with depression found CoCM to be associated with significantly higher mental health care use, lower depressive symptoms, higher quality of life, and greater satisfaction.³⁶ See PDF [here](#).
- A retrospective cohort study of EMERALD (Early Management and Evidence-Based Recognition of Adolescents Living with Depression), a CoCM program for adolescents with depression, found the intervention group to have higher rates of remission and response than the comparison group.³⁷ See PDF [here](#).
- A study of CoCM for children and adolescents with anxiety, depression, or ADHD found the model to be associated with improved access to care, improved pediatrician attitudes, and symptom improvements.³⁸ Significant improvement was observed among patients with ADHD from baseline to any initial follow-up and at six and 18 weeks, and significant differences in outcomes were identified for between patients with anxiety receiving psychotherapy alone versus medication management plus psychotherapy.³⁹ See PDFs [here](#) and [here](#).
- A 4-year retrospective cohort study found that pediatricians participating in MAACC (Mood, Anxiety, ADHD Collaborative Care) were more likely to independently diagnose,

manage, and follow up on patients with anxiety and/or depression than pediatricians without CoCM access — extending beyond patient-level benefits to show lasting change in clinician practice behavior.⁴⁰ See PDF [here](#).

CoCM in Dementia and Cognitive Impairment

- A real-world pilot found that older adults with cognitive impairment enrolled in CoCM showed reductions in depression and anxiety symptoms; within the first year, half of enrolled patients had a 50% or greater reduction in symptoms and patients also showed improvements in neuropsychiatric symptoms such as agitation, anxiety, and apathy.⁴¹ See PDF [here](#).
- A RCT of CoCM for older adults with Alzheimer disease found that patients enrolled in the intervention experienced significantly greater improvement in the quality of dementia care, larger reductions in behavioral and psychological symptoms, and greater improvements in caregiver stress compared to those receiving care as usual.⁴² See PDF [here](#).
- A narrative review of emerging collaborative dementia care models in the primary care setting found that these models showed increased adherence to dementia care guidelines and quality indicators, improved health outcomes and quality of life, decreased caregiver burden, and cost savings compared with standard-of-care models.⁴³ See PDF [here](#).
- A dissemination study of the Care Ecosystem model across 28 health systems and 8 community-based organizations in geographically diverse U.S. cities found that the model was successfully translated from a research setting into real-world care, with model adaptations common across sites and key facilitators including clinical champions, health system buy-in, and open-access, adaptable training materials.⁴⁴ See PDF [here](#).

CoCM in Maternal Mental Health

- Women enrolled in CoCM showed greater improvement in depressive symptoms, better overall functioning, greater satisfaction with care, and better adherence with antidepressants when prescribed.⁴⁵ See PDF [here](#).
- Compared to mothers receiving public health maternity support services, mothers enrolled in a culturally relevant CoCM program showed significant improvement in quality of care, depression severity, and remission rates.⁴⁶ See PDF [here](#).
- A mixed methods study of CoCM implementation in a rural OB/GYN clinic found that 87% of eligible patients enrolled, and 64% of enrolled patients showed a greater than 50% decrease in PHQ-9 scores.⁴⁷ See PDF [here](#).
- A secondary analysis of electronic records found that CoCM reduced anxiety symptoms over a 90-day time period.⁴⁸ See PDF [here](#).

- A real-world pilot of a tech-enabled, coach-driven perinatal CoCM program embedded in an OB/GYN clinic found that over 80% of referred patients enrolled and 70% completed intake within one week; for enrolled patients, symptom remission occurred within approximately 8-9 sessions over 3-4 months.⁴⁹ See PDF [here](#).

CoCM and Substance Use Disorders

- CoCM has been shown to be efficacious for patients with depression and substance use disorders (SUD).^{50,51} See PDFs [here](#) and [here](#).
- CoCM adapted for opioid use disorder (OUD) led to a greater reduction in the number of days of nonmedical opioid use compared to standard CoCM for mental health symptoms alone; even patients with probable OUD and co-occurring mental illness engaged with care managers and received CoCM with fidelity.^{52,53} See PDFs [here](#) and [here](#).
- CoCM resulted in significantly more access to treatment and abstinence from alcohol and drugs at 6 months, than usual care among adults with opioid and/or alcohol use disorders (OAUD) seen in primary care.⁵⁴ See PDF [here](#).
- CoCM delivered by telehealth has shown preliminary efficacy for chronic pain and substance use for rural-residing veterans with co-occurring chronic musculoskeletal pain and substance use disorders.⁵⁵ See PDF [here](#).

CoCM and Suicidal Ideation and Behaviors

- A large meta-analysis found that CoCM was associated with significant reductions in suicidal ideation at 4 to 6 months post-intervention, with the greatest impact observed among adults aged 65 years and older; embedding a psychological intervention within CoCM was identified as the strongest contributing factor contributing.⁵⁶ See PDF [here](#).
- In a community-based CoCM program, rates of suicidal ideation among participants declined from 11% at enrollment to 7% after treatment, alongside depression and anxiety symptom improvement.⁵⁷ See PDF [here](#).
- A RCT found that older adults receiving CoCM services had lower rates of suicidal ideation than those receiving usual care at 12 months (9.8% vs. 15.5%), with effects sustained at 18 months (8% vs. 13.3%) and 24 months (10% vs. 13.9%).⁵⁸ See PDF [here](#).
- Adults aged 60 years or older who received CoCM services had a 2.2-fold greater decline in suicidal ideation and higher rates of depression remission than usual care at 4 months (26.6% vs. 15.2%), 8 months (36% vs. 22.5%) and 24 months (45.4% vs. 31.5%).⁵⁹ See PDF [here](#).
- A joint systematic review and meta-analysis found that CoCM reduced suicidal behavior by 44% among patients with depression or at risk of suicide in primary care settings.⁶⁰ See PDF [here](#).

Additional CoCM Adaptations

- A pilot study of the Primary Care Integrated Weight Management (PCIWM) program — the first known adaptation of CoCM for obesity and weight management in primary care — found that CoCM may offer a feasible approach to addressing chronic conditions beyond depression, particularly in rural settings with limited specialty access.⁶¹ See PDF [here](#).
- A pilot program of a novel adaptation of CoCM to address a workforce and access gap in adult congenital heart disease (ACHD) specialty care found that specialty clinic volume nearly doubled (~2-fold), with further opportunity to expand each ACHD cardiologist's effective panel capacity by 3.3 times compared to a traditional care model; clinical outcomes have not yet been evaluated.⁶² See PDF [here](#).

CoCM and Health Disparities

- A systematic review of 19 studies found that CoCM mitigates treatment disparities for people of color, including Black, Latino, Asian, Native American, and Alaska Native patients.⁶³ See PDF [here](#).
- A real-world implementation and effectiveness study of a CoCM program serving 148 adults with depression and anxiety in an urban academic setting located in a mental health shortage area found significant reductions in depression and associated symptoms among a majority racial and ethnic minority patient population.⁶⁴ See PDF [here](#).
- A pragmatic implementation study tracking the CoCM engagement cascade across 11 primary care clinics and nearly 118,000 patients found that Black patients and Medicaid beneficiaries were less likely to be screened and referred, but that disparities largely resolved after enrollment —suggesting that access, rather than treatment quality, is the primary driver of disparities in CoCM.⁶⁵ See PDF [here](#).

CoCM in Federally Qualified Health Centers (FQHCs) and Rural Health Centers (RHC)

- Studies found CoCM treatment in rural clinics to be as effective as in urban clinics, across older and younger adults; primary care providers in these settings also reported positive experiences implementing the model.^{66,67} See PDFs [here](#) and [here](#).
- A longitudinal study at one FQHC found that patients receiving CoCM services experienced meaningful reductions in depressive symptoms, with 63% showing evidence of remission at 12 months. Longer enrollment, higher fidelity to CoCM, and greater treatment adherence were all linked to symptom improvements.⁶⁸ See PDF [here](#).

- A RCT conducted across five FQHCs found CoCM to be efficacious for treating depression, with the strongest results seen in clinics using telemedicine-based CoCM teams.⁶⁹ See PDF [here](#).

CoCM Cost Savings and Return on Investment (ROI)

- CoCM has been shown to have a ROI of six to one for patients with depression over a four-year period.⁷⁰ See PDF [here](#).
- Spending on CoCM services did not significantly increase overall healthcare costs and was generally modest.⁷¹ See PDF [here](#).
- If CoCM services were available to all Medicaid beneficiaries nationwide with diagnosed depression (approximately 20% of the general Medicaid population), Medicaid could collectively save approximately \$15 billion annually.⁷² See PDF [here](#).
- A 2017 evaluation found that patients mental health conditions and SUDs, were associated with a projected \$406 billion in additional annual healthcare costs across all payers, and that 9–17% of this spending could be saved annually through effective BHI models such as CoCM — an estimated \$38–\$68 billion annually across all payers, or \$19.3–\$38.6 billion, \$6.0–\$12.0 billion, and \$12.3–\$17.2 billion for commercial payers, Medicare, and Medicaid, respectively.⁷³ See PDF [here](#).
- CoCM was found to be cost-effective for patients with depression using the standard of \$50,000 per Quality-Adjusted Life Year (QALY).⁷⁴ See PDF [here](#).
- CoCM was associated with approximately \$1,000 in total cost-of-care savings for patients with depression and diabetes, equating to approximately 60 additional depression-free days over a two-year period.⁷⁵ See PDF [here](#).
- Relative to treatment models that co-locate independent mental health clinicians in primary care, patients receiving CoCM services had significantly lower odds of emergency department visits and medical specialty office visits, though total costs of care did not differ significantly between the two treatment models.⁷⁶ See PDF [here](#).

CoCM Reimbursement and Financing

- CoCM reimbursement using novel billing codes has been shown to be feasible in real-world settings, leading to greater financial stability for practices.^{77,78} See PDFs [here](#) and [here](#).
- CoCM code utilization has increased among Medicare beneficiaries since 2017.^{79,80} See PDFs [here](#) and [here](#).
- Regarding implementation costs, the median cost per CoCM clinic was \$160,000, ranging from \$49,000 to \$650,000; smaller health systems had a higher median cost per clinic (\$200,000) than larger systems (\$100,000). Leadership personnel costs accounted for 70% of total implementation costs across health systems, suggesting that efficient implementation involving fewer high-level leadership personnel for shorter periods may reduce overall spending.⁸¹ See PDF [here](#).

- Use of CoCM and other BHI codes in the commercial market increased 10- to 35- fold from 2018 to 2021, and payment for those codes in the commercial market was higher than corresponding Medicare payment.⁸² See PDF [here](#).
- A lack of billing clarity and awareness, along with workforce constraints, was found to hinder CoCM adoption among FQHCs, which are often not fully equipped with the resources, workflows, staffing, and payment structures needed to support CoCM and BHI billing; increased financial and logistical support is needed to reduce this administrative and reimbursement burden.⁸³ See PDF [here](#).
- Major barriers to CoCM billing at scale included mandatory consent documentation and patient cost-sharing requirements.⁸⁴ See PDF [here](#).

CoCM Long-Term Viability and Sustainability

- A sustainability-focused analysis of CoCM across 157 clinics in New York State (71% FQHCs) found that care manager engagement, staffing levels, and caseload size were key predictors of long-term program reach and effectiveness.⁸⁵ See PDF [here](#).
- A survey of 26 primary care providers across four clinics found CoCM to be associated with improved provider wellness, with 84.6% reporting reduced stress, 80.8% reporting improved job satisfaction, and 57.7% reporting increased comfort prescribing psychotropic medications; all respondents said they would recommend CoCM to colleagues.⁸⁶ See PDF [here](#).
- A micro-costing analysis of the Care Ecosystem's implementation across two sites (California and Nebraska) found start-up and early-operations costs of \$581 and \$328 per-participant-month in California and \$501 and \$219 in Nebraska, respectively, with average costs decreasing over time to \$241 (California) and \$142 (Nebraska) per-participant-month during steady-state operations.⁸⁷ See PDF [here](#).

Endnotes

- ¹ Unützer, J., Katon, W., Callahan, C. M., Williams, Jr, J. W., Hunkeler, E., Harpole, L., Hoffing, M., Della Penna, R. D., Noël, P. H., Lin, E. H. B., Areán, P. A., Hegel, M. T., Tang, L., Belin, T. R., Oishi, S., Langston, C., & for the IMPACT Investigators. (2002). Collaborative Care Management of Late-Life Depression in the Primary Care Setting. *JAMA*, 288(22), 2836. <https://doi.org/10.1001/jama.288.22.2836>.
- ² Stewart, J. C., Patel, J. S., Polanka, B. M., Gao, S., Nurnberger, J. I., MacDonald, K. L., ... & Callahan, C. M. (2023). Effect of modernized collaborative care for depression on depressive symptoms and cardiovascular disease risk biomarkers: eIMPACT randomized controlled trial. *Brain, behavior, and immunity*, 112, 18-28.
- ³ Williams, M. K., Shell, A. L., Wu, W., MacDonald, K. L., Callahan, C. M., Nurnberger Jr, J. I., ... & Stewart, J. C. (2026). Longer-term effects of modernized collaborative care for depression on multiple mental health factors (eIMPACT): A randomized controlled trial. *Journal of Affective Disorders*, 120272.
- ⁴ Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L., Dickens, C., & Coventry, P. (2012). Collaborative care for depression and anxiety problems. *The Cochrane Database of Systematic Reviews*, 10(10), CD006525. <https://doi.org/10.1002/14651858.CD006525.pub2>
- ⁵ Gilbody, S., Bower, P., Fletcher, J., Richards, D., & Sutton, A. J. (2006). Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Archives of Internal Medicine*, 166(21), 2314–2321. <https://doi.org/10.1001/archinte.166.21.2314>
- ⁶ Thota, A. B., Sipe, T. A., Byard, G. J., Zometa, C. S., Hahn, R. A., McKnight-Eily, L. R., Chapman, D. P., Abraido-Lanza, A. F., Pearson, J. L., Anderson, C. W., Gelenberg, A. J., Hennessy, K. D., Duffy, F. F., Vernon-Smiley, M. E., Nease, D. E., & Williams, S. P. (2012). Collaborative care to improve the management of depressive disorders: A community guide systematic review and meta-analysis. *American Journal of Preventive Medicine*, 42(5), 525–538. <https://doi.org/10.1016/j.amepre.2012.01.019>
- ⁷ Panagioti, M., Bower, P., Kontopantelis, E., Lovell, K., Gilbody, S., Waheed, W., Dickens, C., Archer, J., Simon, G., Ell, K., Huffman, J. C., Richards, D. A., Van Der Feltz-Cornelis, C., Adler, D. A., Bruce, M., Buszewicz, M., Cole, M. G., Davidson, K. W., De Jonge, P., ... Coventry, P. A. (2016). Association between chronic physical conditions and the effectiveness of collaborative care for depression: An individual participant data meta-analysis. *JAMA Psychiatry*, 73(9), 978–989. <https://doi.org/10.1001/jamapsychiatry.2016.1794>
- ⁸ Wong, C., & Corso, G. E. (2026). Collaborative Care for Depression in Chronic Illness: A Narrative Review. *Journal of Primary Care & Community Health*, 17, 21501319261434616.
- ⁹ Solberg, L. I., Crain, A. L., Maciosek, M. V., Unützer, J., Ohnsorg, K. A., Beck, A., Rubenstein, L., Whitebird, R. R., Rossom, R. C., Pietruszewski, P. B., Crabtree, B. F., Joslyn, K., Van De Ven, A., & Glasgow, R. E. (2015). A stepped-wedge evaluation of an initiative to spread the collaborative care model for depression in primary care. *Annals of Family Medicine*, 13(5), 412–420. <https://doi.org/10.1370/afm.1842>

- ¹⁰ Katon, W. J., Lin, E. H. B., Von Korff, M., Ciechanowski, P., Ludman, E. J., Young, B., Peterson, D., Rutter, C. M., McGregor, M., & McCulloch, D. (2010). Collaborative Care for Patients with Depression and Chronic Illnesses. *New England Journal of Medicine*, 363(27), 2611–2620. <https://doi.org/10.1056/NEJMoa1003955>
- ¹¹ Fortney, J. C., Pyne, J. M., Edlund, M. J., Williams, D. K., Robinson, D. E., Mittal, D., & Henderson, K. L. (2007). A randomized trial of telemedicine-based collaborative care for depression. *Journal of General Internal Medicine*, 22(8), 1086–1093. <https://doi.org/10.1007/s11606-007-0201-9>
- ¹² Ridout, K. K., Alavi, M., Lee, C., Fazzolari, L., Ridout, S. J., Koshy, M. T., ... & Iturralde, E. (2024). Virtual Collaborative Care Versus Specialty Psychiatry Treatment for Depression or Anxiety. *The Journal of Clinical Psychiatry*, 85(3), 24m15332.
- ¹³ Huffman, J. C., Mastromauro, C. A., Beach, S. R., Celano, C. M., DuBois, C. M., Healy, B. C., Suarez, L., Rollman, B. L., & Januzzi, J. L. (2014). Collaborative care for depression and anxiety disorders in patients with recent cardiac events: The management of sadness and anxiety in cardiology (MOSAIC) randomized clinical trial. *JAMA Internal Medicine*, 174(6), 927–935. <https://doi.org/10.1001/jamainternmed.2014.739>
- ¹⁴ Carroll, A. J., Philbin, S. E., Sanuade, O. A., Fu, E. S., Carlo, A. D., Pedamallu, H., ... & Smith, J. D. (2025). Impact of collaborative care model treatment for depression and anxiety on cardiovascular risk factors using electronic health record data. *Journal of Affective Disorders*, 119720.
- ¹⁵ Sharpe, M., Walker, J., Hansen, C. H., Martin, P., Symeonides, S., Gourley, C., Wall, L., Weller, D., & Murray, G. (2014). Integrated collaborative care for comorbid major depression in patients with cancer (SMaRT Oncology-2): A multicentre randomised controlled effectiveness trial. *The Lancet*, 384(9948), 1099–1108. [https://doi.org/10.1016/S0140-6736\(14\)61231-9](https://doi.org/10.1016/S0140-6736(14)61231-9)
- ¹⁶ Ma, J., Rosas, L. G., Lv, N., Xiao, L., Snowden, M. B., Venditti, E. M., Lewis, M. A., Goldhaber-Fiebert, J. D., & Lavori, P. W. (2019). Effect of Integrated Behavioral Weight Loss Treatment and Problem-Solving Therapy on Body Mass Index and Depressive Symptoms among Patients with Obesity and Depression: The RAINBOW Randomized Clinical Trial. *JAMA - Journal of the American Medical Association*, 321(9), 869–879. <https://doi.org/10.1001/jama.2019.0557>
- ¹⁷ Pyne JM, Curran GM, Tripathi S, Atkinson JH, Kilbourne AM, Hagedorn HJ, Rimland D, Rodriguez-Barradas MC, Monson T, Bottonari KA, Asch SM, Gifford AL, F. J. C. (2011). Effectiveness of collaborative care for depression in human immunodeficiency virus clinics. *Archives of Internal Medicine*, 171(1), 23. <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-00771224>
- ¹⁸ Zatzick, D., Roy-Byrne, P., Russo, J., Rivara, F., Droesch, R., Wagner, A., Dunn, C., Jurkovich, G., Uehara, ; Edwina, & Katon, W. (2004). A Randomized Effectiveness Trial of Stepped Collaborative Care for Acutely Injured Trauma Survivors. In *Arch Gen Psychiatry* (Vol. 61).
- ¹⁹ Fortney, J. C., Pyne, J. M., Kimbrell, T. A., Hudson, T. J., Robinson, D. E., Schneider, R., Moore,

- W. M., Custer, P. J., Grubbs, K. M., & Schnurr, P. P. (2015). Telemedicine-based collaborative care for posttraumatic stress disorder: A randomized clinical trial. *JAMA Psychiatry*, 72(1), 58–67. <https://doi.org/10.1001/jamapsychiatry.2014.1575>
- ²⁰ Bauer, A. M., Azzone, V., Goldman, H. H., Alexander, L., Unützer, J., Coleman-Beattie, B., & Frank, R. G. (2011). Implementation of collaborative depression management at community-based primary care clinics: an evaluation. *Psychiatric Services (Washington, D.C.)*, 62(9), 1047–1053. <https://doi.org/10.1176/appi.ps.62.9.1047>
- ²¹ Unützer, J., Carlo, A. C., Arao, R., Vredevoogd, M., Fortney, J., Powers, D., & Russo, J. (2020). Variation In The Effectiveness Of Collaborative Care For Depression: Does It Matter Where You Get Your Care? *Health Affairs*, 39(11), 1943–1950. <https://doi.org/10.1377/hlthaff.2019.01714>
- ²² Blackmore, M. A., Patel, U. B., Stein, D., Carleton, K. E., Ricketts, S. M., Ansari, A. M., & Chung, H. (2022). Collaborative Care for Low-Income Patients From Racial-Ethnic Minority Groups in Primary Care: Engagement and Clinical Outcomes. *Psychiatric Services*. <https://doi.org/10.1176/appi.ps.202000924>
- ²³ Ridout, K. K., Alavi, M., Lee, C., Fazzolari, L., Ridout, S. J., Koshy, M. T., Harris, B., Awsare, S., Weisner, C. M., & Iturralde, E. (2024). Virtual Collaborative Care Versus Specialty Psychiatry Treatment for Depression or Anxiety. *The Journal of Clinical Psychiatry*, 85(3). <https://doi.org/10.4088/JCP.24m15332>
- ²⁴ Kroenke, K., Theobald, D., Wu, J., Norton, K., Morrison, G., Carpenter, J., & Tu, W. (2010). Effect of telecare management on pain and depression in patients with cancer: a randomized trial. *Jama*, 304(2), 163–171.
- ²⁵ Walker, J., Hansen, C. H., Martin, P., Symeonides, S., Gourley, C., Wall, L., ... & Sharpe, M. (2014). Integrated collaborative care for major depression comorbid with a poor prognosis cancer (SMaRT Oncology-3): a multicentre randomised controlled trial in patients with lung cancer. *The Lancet Oncology*, 15(10), 1168–1176.
- ²⁶ Wu, C. C., Ketron, A., Pirl, W., Lally, K., Cubbison, C., & Yusuf, M. (2026). Impact of a collaborative care program on depression outcomes: A real-world retrospective analysis. *Palliative and Supportive Care*, 24, e57. doi:10.1017/S1478951526101709
- ²⁷ Cheville, A. L., Herrin, J., Pachman, D. R., Grzegorzczak, V., Kroenke, K., Ridgeway, J. L., ... & Ruddy, K. J. (2026). Electronic health record-facilitated symptom surveillance and collaborative care intervention in oncology (E2C2): a cluster-randomised, population-level, stepped-wedge, pragmatic trial. *The Lancet Oncology*, 27(1), 125–136.
- ²⁸ Minter, S. A., Ridgeway, J. L., Austin, J. D., Griffin, J. M., Tesch, N. K., Nelson, A. M., ... & Cheville, A. L. (2026). Lessons Learned From Implementing a Complex Cancer Symptom Monitoring Intervention With Electronic Patient Reported Outcome Measures, Electronic Clinician Decision Support, and Remote Collaborative Care Components. *Cancer Medicine*, 15(9), e72233.
- ²⁹ LePoire, E., Whitfield, J., Bauer, A., & Ratzliff, A. (2026). Real-world implementation of Collaborative Care in the United States: a systematic review. *BMC Primary Care*.
- ³⁰ O'Mara, A., Uyanik, E., Caplan, J., & Azhar, E. (2026). Outcomes of Depression and Anxiety in a

-
- Virtual Collaborative Care Program: A Quality Improvement Study. *Global Journal on Quality and Safety in Healthcare*, 9(3), 63-70.
- ³¹ Walker, C., Little, V., & Lyons, J. (2026). Collaborative care treatment for major depressive disorder. *Frontiers in Psychiatry*, 17, 1798572.
- ³² Yonek, J., Lee, C. M., Harrison, A., Mangurian, C., & Tolou-Shams, M. (2020). Key Components of Effective Pediatric Integrated Mental Health Care Models: A Systematic Review. *JAMA Pediatrics*, 174(5), 487–498.
<https://doi.org/10.1001/jamapediatrics.2020.0023>
- ³³ Richardson, L. P., Ludman, E., McCauley, E., Lindenbaum, J., Larison, C., Zhou, C., Clarke, G., Brent, D., & Katon, W. (2014). Collaborative care for adolescents with depression in primary care: A randomized clinical trial. *JAMA - Journal of the American Medical Association*, 312(8), 809–816. <https://doi.org/10.1001/jama.2014.9259>
- ³⁴ Silverstein, M., Hironaka, L. K., Walter, H. J., Feinberg, E., Sandler, J., Pellicer, M., Chen, N., & Cabral, H. (2015). Collaborative care for children with ADHD symptoms: A randomized comparative effectiveness trial. *Pediatrics*, 135(4), e858–e867.
<https://doi.org/10.1542/peds.2014-3221>
- ³⁵ Kolko, D. J., Campo, J., Kilbourne, A. M., Hart, J., Sakolsky, D., & Wisniewski, S. (2014). Collaborative care outcomes for pediatric behavioral health problems: A cluster randomized trial. *Pediatrics*, 133(4). <https://doi.org/10.1542/peds.2013-2516>
- ³⁶ Asarnow, J. R., Jaycox, L. H., Duan, N., LaBorde, A. P., Rea, M. M., Murray, P., Anderson, M., Landon, C., Tang, L., & Wells, K. B. (2005). Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics: a randomized controlled trial. *JAMA*, 293(3), 311–319. <https://doi.org/10.1001/jama.293.3.311>
- ³⁷ Shippee, N. D., Mattson, A., Brennan, R., Huxsahl, J., Billings, M. L., & Williams, M. D. (2018). Effectiveness in regular practice of collaborative care for depression among adolescents: A retrospective cohort study. *Psychiatric Services*, 69(5), 536–541.
<https://doi.org/10.1176/appi.ps.201700298>
- ³⁸ Parkhurst, J. T., Ballard, R. R., Lavigne, J. V., Von Mach, T., Romba, C., Perez-Reisler, M., & Walkup, J. T. (2021). Extending collaborative care to independent primary care practices: A chronic care model. *Clinical Practice in Pediatric Psychology*.
<https://doi.org/10.1037/cpp0000383>
- ³⁹ Parkhurst, J. T., Garcia-Goetting, C., Peist, E., Ballard, R., Romba, C., & Lavigne, J. V. (2023). Pediatric collaborative care outcomes in a regional model. *Frontiers in Psychiatry*, 14.
<https://doi.org/10.3389/fpsy.2023.1252505>
- ⁴⁰ Ballard, R., Terry, N., Friedland, S. J., & Parkhurst, J. T. (2026). Building independent mental health practice through collaborative care. *Academic Pediatrics*, 103361.
- ⁴¹ Johnson, D. Y., Staab, E. M., Hahn, P., Lusk, C., Zahradnik, E. K., & Laiteerapong, N. (2026). A Real-World Pilot of the Collaborative Care Model for Adults With Cognitive Impairment and Neuropsychiatric Symptoms in Primary Care. *Psychiatric Research and Clinical Practice*.
- ⁴² Callahan, C. M., Boustani, M. A., Unverzagt, F. W., Austrom, M. G., Damush, T. M., Perkins, A.

- J., ... & Hendrie, H. C. (2006). Effectiveness of collaborative care for older adults with Alzheimer disease in primary care: a randomized controlled trial. *Jama*, 295(18), 2148-2157.
- ⁴³ Heintz, H., Monette, P., Epstein-Lubow, G., Smith, L., Rowlett, S., & Forester, B. P. (2020). Emerging collaborative care models for dementia care in the primary care setting: a narrative review. *The American Journal of Geriatric Psychiatry*, 28(3), 320-330.
- ⁴⁴ Sideman, A. B., Dulaney, S., Merrilees, J., Barclay, M., Hernandez de Jesus, A., & Possin, K. L. (2025). Dissemination of the care ecosystem collaborative care model for dementia. *Journal of the American Geriatrics Society*, 73(7), 2220-2228.
- ⁴⁵ Melville, J. L., Reed, S. D., Russo, J., Croicu, C. A., Ludman, E., Larocco-Cockburn, A., & Katon, W. (2014). Improving care for depression in obstetrics and gynecology: A randomized controlled trial. *Obstetrics and Gynecology*, 123(6), 1237–1246.
<https://doi.org/10.1097/AOG.0000000000000231>
- ⁴⁶ Grote, N. K., Katon, W. J., Russo, J. E., Lohr, M. J., Curran, M., Galvin, E., & Carson, K. (2015). Collaborative Care for Perinatal Depression In Socioeconomically Disadvantaged Women: A Randomized Trial. *Depression and Anxiety*, 32(11), 821–834.
<https://doi.org/10.1002/da.22405>
- ⁴⁷ Bhat, A., Grote, N. K., Russo, J., Lohr, M. J., Jung, H., Rouse, C. E., Howell, E. C., Melville, J. L., Carson, K., & Katon, W. (2017). Collaborative Care for Perinatal Depression Among Socioeconomically Disadvantaged Women: Adverse Neonatal Birth Events and Treatment Response. *Psychiatric Services*, 68(1), 17–24. <https://doi.org/10.1176/appi.ps.201600002>
- ⁴⁸ Standeven, L. R., Miller, K. N., Mallow, A., Berger, R., & Little, V. (2023). Reduction of anxiety symptoms among women within a collaborative care model and women’s health settings. *Primary Health Care Research and Development*, 24.
<https://doi.org/10.1017/S1463423623000440>
- ⁴⁹ Steele, K., Zimmermann, M., Simas, T.A.M. *et al.* Clinical Outcomes of a Tech-enabled Perinatal Collaborative Care Program to Treat Depression and Anxiety. *Matern Child Health J* 30, 517–526 (2026). <https://doi.org/10.1007/s10995-026-04245-4>
- ⁵⁰ Chan, Y.-F., Huang, H., Sieu, N., & Unützer, J. (2013). Substance Screening and Referral for Substance Abuse Treatment in an Integrated Mental Health Care Program. *Psychiatric Services*, 64(1), 88–90. <https://doi.org/10.1176/appi.ps.201200082>
- ⁵¹ Chan, Y. F., Huang, H., Bradley, K., & Unützer, J. (2014). Referral for substance abuse treatment and depression improvement among patients with co-occurring disorders seeking behavioral health services in primary care. *Journal of Substance Abuse Treatment*, 46(2), 106–112. <https://doi.org/10.1016/j.jsat.2013.08.016>
- ⁵² Fortney, J. C., Ratzliff, A. D., Blanchard, B. E., Ferro, L., Chase, E., Rouvere, J., ... & Saxon, A. J. (2025). Collaborative Care for Opioid Use Disorder in Primary Care: A Hybrid Type 2 Cluster Randomized Clinical Trial. *JAMA Psychiatry* 82(10), 956-966.
- ⁵³ Watkins, K. E., Weir, R., Pak, L., Griffin, B. A., Griffo, A., Sutherland, A. T., ... & Osilla, K. C. (2024). Collaborative care model for patients with opioid use disorder and mental illness. *JAMA Network Open*, 7(11), e2449012.

-
- ⁵⁴ Watkins, K. E., Ober, A. J., Lamp, K., Lind, M., Setodji, C., Osilla, K. C., ... & Pincus, H. A. (2017). Collaborative care for opioid and alcohol use disorders in primary care: the SUMMIT randomized clinical trial. *JAMA Internal Medicine*, 177(10), 1480-1488.
- ⁵⁵ Lovejoy, T. I., Wu, T. Y., Maloy, P., McPherson, S. M., Smith, C. L., & Zaccari, B. (2025). Collaborative Tele-Pain and Substance Use Disorder Care for Patients in a Rural Setting: Results of a Single-Arm Open-Label Pilot Trial. *Pain Management Nursing*.
- ⁵⁶ Grigoroglou, C., Van der Feltz-Cornelis, C., Hodgkinson, A., Coventry, P. A., Zghebi, S. S., Kontopantelis, E., ... & Panagioti, M. (2021). Effectiveness of collaborative care in reducing suicidal ideation: An individual participant data meta-analysis. *General Hospital Psychiatry*, 71, 27-35.
- ⁵⁷ Khazanov, G. K., Wolk, C. B., Lorenc, E., Candon, M., Pieri, M. F., Oslin, D. W., ... & Jager-Hyman, S. (2024). Change in suicidal ideation, depression, and anxiety following collaborative care in the community. *BMC Primary Care*, 25(1), 241.
- ⁵⁸ Unützer, J., Tang, L., Oishi, S., Katon, W., Williams, J.W., Jr., Hunkeler, E., Hendrie, H., Lin, E.H.B., Levine, S., Grypma, L., Steffens, D.C., Fields, J., Langston, C. and for the IMPACT Investigators (2006), Reducing Suicidal Ideation in Depressed Older Primary Care Patients. *Journal of the American Geriatrics Society*, 54: 1550-1556. <https://doi-org.ezproxy.lib.utexas.edu/10.1111/j.1532-5415.2006.00882.x>
- ⁵⁹ Alexopoulos, G. S., Reynolds III, MD, C. F., Bruce, M. L., Katz, I. R., Raue, P. J., Mulsant, B. H., ... & PROSPECT Group. (2009). Reducing suicidal ideation and depression in older primary care patients: 24-month outcomes of the PROSPECT study. *American Journal of Psychiatry*, 166(8), 882-890.
- ⁶⁰ Ko, W., Jeong, H., Yim, H. W., & Lee, S. Y. (2025). Collaborative care interventions to reduce suicidal behavior among patients with depression or at risk of suicide in primary-care settings: A systematic review and meta-analysis. *Journal of Affective Disorders*.
- ⁶¹ Hales, S., Koob, C., Harvey, J., Kruis, R., McElligott, J., & Ford, D. (2025). Implementing a Virtual, Collaborative Care Weight Management Program in Rural Primary Care: Pilot Results and Insights. *Telemedicine reports*, 6(1), 341–351. <https://doi.org/10.1177/26924366251385717>
- ⁶² Luo, M. A. K., Park, D. C., Ruiz, M. R., Seto, M. T. B., Kemble, M. S. B., & Bratincsak, M. A. (2026). The adult congenital heart disease collaborative care model: Improving access with a care delivery innovation. *International Journal of Cardiology Congenital Heart Disease*, 100709.
- ⁶³ Hu, J., Wu, T., Damodaran, S., Tabb, K. M., Bauer, A., & Huang, H. (2020). The Effectiveness of Collaborative Care on Depression Outcomes for Racial/Ethnic Minority Populations in Primary Care: A Systematic Review. *Psychosomatics*, 61(6), 632–644. <https://doi.org/10.1016/j.psych.2020.03.007>
- ⁶⁴ Hahn, P. J., Johnson, D. Y., Wang, J., Lusk, C., Allen, S., Araújo, F. S., ... & Laiteerapong, N. (2025). Evaluating the Real-World Implementation and Effectiveness of a Collaborative Care Model for Adults with Depression and Anxiety at an Urban, Academic Hospital. *Journal of Evaluation in Clinical Practice*, 31(8), e70332.

-
- ⁶⁵ Carroll, A. J., Carlo, A. D., Philbin, S., Fu, E. S., Rado, J. T., Rosenthal, L. J., ... & Smith, J. D. (2026). Disparities in the Treatment Engagement Cascade of Collaborative Care for Depression in a Pragmatic Implementation Study. *Psychiatric Services*, appi-ps.
- ⁶⁶ Powers, D. M., Bowen, D. J., Arao, R. F., Vredevoogd, M., Russo, J., Grover, T., & Unützer, J. (2020). Rural clinics implementing collaborative care for low-income patients can achieve comparable or better depression outcomes. *Families, Systems and Health*, 38(3), 242–254. <https://doi.org/10.1037/fsh0000522>
- ⁶⁷ Renn, B. N., Johnson, M., Powers, D. M., Vredevoogd, M., & Unützer, J. (2022). Collaborative care for depression yields similar improvement among older and younger rural adults. *Journal of the American Geriatrics Society*, 70(1), 110–118.
- ⁶⁸ Flanigan-Bodrick, A., & Solomon, P. (2025). Quality improvement study of collaborative care model services at a federally qualified health center: A uniform data system-informed approach. *Families, Systems, & Health*. Advance online publication <https://dx.doi.org/10.1037/fsh0000955>
- ⁶⁹ Fortney, J. C., Pyne, J. M., Moudén, S. B., Mittal, D., Hudson, T. J., Schroeder, G. W., Williams, D. K., Bynum, C. A., Mattox, R., & Rost, K. M. (2013). Practice-based versus telemedicine-based collaborative care for depression in rural federally qualified health centers: A pragmatic randomized comparative effectiveness trial. *American Journal of Psychiatry*, 170(4), 414–425. <https://doi.org/10.1176/appi.ajp.2012.12050696>
- ⁷⁰ Unützer, J., Katon, W. J., Fan, M.-Y., Schoenbaum, M. C., Lin, E. H. B., Della Penna, R. D., & Powers, D. (2008). Long-term cost effects of collaborative care for late-life depression. *The American Journal of Managed Care*, 14(2), 95–100. <https://doi.org/10.1038/jid.2014.371>
- ⁷¹ Courtney, B., Wolk, E., Wilkinson, C., Livesey, D. W., Oslin, K., Connolly, R., Smith-McLallen, A., & Press, M. J. (2023). Impact of the Collaborative Care Model on Medical Spending. *American Journal of Managed Care*, 29(10).
- ⁷² Unützer, J., Harbin, H., Schoenbaum, M., & Druss, B. (2013). The collaborative care model: An approach for integrating physical and mental health care in Medicaid health homes. *Health Home Information Resource Center*, 90.
- ⁷³ Melek, S. P., Norris, D. T., Paulus, J., Matthews, K., Weaver, A., & Davenport, S. (2018). Potential economic impact of integrated medical-behavioral healthcare. *Milliman: Seattle, WA, USA*.
- ⁷⁴ Jacob, V., Chattopadhyay, S. K., Sipe, T. A., Thota, A. B., Byard, G. J., & Chapman, D. P. (2012). Economics of collaborative care for management of depressive disorders: A community guide systematic review. *American Journal of Preventive Medicine*, 42(5), 539–549. <https://doi.org/10.1016/j.amepre.2012.01.011>
- ⁷⁵ Simon, G. E., Katon, W. J., Lin, E. H. B., Rutter, C., Manning, W. G., Von Korff, M., Ciechanowski, P., Ludman, E. J., & Young, B. A. (2007). Cost-effectiveness of systematic depression treatment among people with diabetes mellitus. *Archives of General Psychiatry*, 64(1), 65–72. <https://doi.org/10.1001/archpsyc.64.1.65>
- ⁷⁶ Chung, H., Patel, U., Stein, D., Collado, K., & Blackmore, M. (2023). Medicaid costs and

- utilization of collaborative versus colocation care for patients with depression. *Psychiatric Services*, 74(11), 1132-1136.
- ⁷⁷ Carlo, A. D., Corage Baden, A., McCarty, R. L., & Ratzliff, A. D. H. (2019). Early Health System Experiences with Collaborative Care (CoCM) Billing Codes: a Qualitative Study of Leadership and Support Staff. *Journal of General Internal Medicine*, 34(10), 2150–2158. <https://doi.org/10.1007/s11606-019-05195-0>
- ⁷⁸ Carlo, A. D., Drake, L., Ratzliff, A. D., Chang, D., & Unützer, J. (2020). Sustaining the collaborative care model (CoCM): billing newly available CoCM CPT codes in an academic primary care system. *Psychiatric Services*, 71(9), 972-974.
- ⁷⁹ Marcotte, L. M., Reddy, A., Zhou, L., Razliff, A., Unützer, J., Chang, D., & Liao, J. M. (2021). Provision of collaborative care model and general behavioral health integration services in Medicare. *Psychiatric Services*, 72(7), 822-825.
- ⁸⁰ Cross, D. A., Qin, X., Huckfeldt, P., Jarosek, S., Parsons, H., & Golberstein, E. (2019). Use of Medicare’s Behavioral Health Integration Service Codes in the First Two Years: an Observational Study. *Journal of General Internal Medicine*, 4–5. <https://doi.org/10.1007/s11606-019-05579-2>
- ⁸¹ Meadows Mental Health Policy Institute. (2023). *Collaborative Care Implementation - Costs Across 10 United States Health Systems*. https://mmhpi.org/wp-content/uploads/2023/04/COCM_Costs_Across_Ten_US_Health_Systems.pdf
- ⁸² America’s Health Insurance Plans (AHIP). (2023). *Improving Access to Mental Health Care*. https://www.ahip.org/documents/202306_AHIP_1P_BHI_CoCM_Commercial_Claims_Trends.pdf
- ⁸³ Lombardi, B. M., Greeno, C., & de Saxe Zerden, L. (2023). Examining the use of psychiatric collaborative care and behavioral health integration codes at federally qualified health centers: A mixed-methods study. *Families, Systems, & Health*, 41(4), 527.
- ⁸⁴ Kaplan, J., Rado, J., & Laiteerapong, N. (2023). Mandatory documented consent and cost-sharing impede access to collaborative care psychiatry. *Journal of general internal medicine*, 38(16), 3616-3617.
- ⁸⁵ Kim, K., Zou, J., Feng, B., Luan, M., Jones, A., Gadbois, D., ... & Moise, N. (2026). Predictors of Sustainability in the Collaborative Care Medicaid Program for Depression: A Cross-Sectional Study. *Psychiatric Services*, appi-ps.
- ⁸⁶ Pelishek, T. M., & Panzer, M. J. (2025). Collaborative Care Reduces Stress and Increases Job Satisfaction and Comfort Prescribing for Primary Care Providers. *WMJ*, 124(4), 364-367.
- ⁸⁷ Rosa, T. D., Possin, K. L., Bernstein, A., Merrilees, J., Dulaney, S., Matuoka, J., ... & Kahn, J. G. (2019). Variations in costs of a collaborative care model for dementia. *Journal of the American Geriatrics Society*, 67(12), 2628-2633.